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ABSTRACT

This digest addresses the importance of and the methods used to assess the performance of college students. Following a definition of "assessment," the digest considers: (1) why classroom assessment of students' achievement is important; (2) how an instructor can ensure the quality of information from classroom assessments; (3) methods of assessment particularly suited to various achievement targets; (4) how the results of several assessments can be meaningfully combined into one composite grade; (5) ways for faculty to improve assessment skills; and (6) conclusions about assessment from a review of the literature. It is concluded that the relatively few empirical studies of classroom assessment in higher education underscore the importance of instructor fairness, clarity in tests, assignments, and scoring, and clear descriptions of the achievement targets or learning goals in higher education classrooms. (DB)

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The Art and Science of Classroom Assessment: The Missing Part of Pedagogy

Susan M. Brookhart

How does an instructor know whether students are learning what the instructor is trying to teach them? How do students find out how they are doing, and can they use that information to study more effectively? Would students be able to tell what the instructor thinks is important for them to learn by looking at the assignments that "count" in a course? Good assessment yields good information about the results of instruction; it is itself a necessary component of good instruction. Students who do not understand what they are aiming to know and how they will be expected to demonstrate their achievements will not be able to participate fully in managing their own learning. Sound assessment and grading practices help teachers improve their own instruction, improve students' motivation, focus students' effort, and increase students' achievement.

"Assessment" means to gather and interpret information about students' achievement, and "achievement" means the level of attainment of learning goals of college courses. Assessing students' achievement is generally accomplished through tests, classroom and take-home assignments, and assigned projects. Strictly speaking, "assessment" refers to assignments and tasks that provide information, and "evaluation" refers to judgments based on that information.

WHY IS CLASSROOM ASSESSMENT OF STUDENTS' ACHIEVEMENT IMPORTANT?

Students should be able to tell what the instructor thinks is important for them to learn by looking at a course's tests, projects, and other assignments. These assessments are an instructor's way of gathering information about what students have learned, and they can then use them to make important decisions--about students' grades, the content of future lessons, the revision of the structure or content of a course or program. Thus, it is important that student assessments in higher education classes give dependable information.

HOW CAN AN INSTRUCTOR ENSURE THE QUALITY OF INFORMATION FROM CLASSROOM ASSESSMENTS?

Information from classroom assessments--grades, scores, and judgments about students' work resulting from tests, assignments, projects, and other work--must be meaningful and accurate (that is, valid and reliable). The results of assessment should be indicators of the particular learning goals for the course, measuring those goals in proportion to their emphasis in the course. An instructor should be confident that students' scores accurately represent their level of achievement.

The Art and Science of Classroom Assessment describes five different kinds of learning goals or "achievement targets": knowledge of facts and concepts (recall); thinking, reasoning, and problem solving using one's knowledge; skill in procedures or processes, such as using a microscope; constructing projects, reports, artwork, or other products; and dispositions, such as appreciating the importance of a discipline. Different methods of assessment are better suited for measuring different kinds of achievement.

WHAT METHODS OF ASSESSMENT ARE PARTICULARLY SUITED TO VARIOUS ACHIEVEMENT TARGETS, AND HOW ARE THEY CONSTRUCTED, ADMINISTERED, AND SCORED?

Four basic methods of assessment are presented: paper-and-pencil tests, performance assessments, oral questions, and portfolios. Paper-and-pencil tests are the most commonly used form of assessment in higher education. Performance assessments are tasks and associated scoring schemes ("rubrics") that require students to make or do something whose quality can be observed and judged. Oral questions are commonly asked in the context of classroom discussions, more often in smaller seminar-style classes than in large lecture sections. Portfolios are collections of students'

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work over time, according to some purpose and guiding principles; they usually include students' reflection on the work. *The Art and Science of Classroom Assessment* provides suggestions about writing good tests, performance tasks, oral questions, and portfolio specifications, and about constructing scoring schemes that examine performance according to learning goals. Two kinds of scoring--objective, requiring a right/wrong or yes/no decision, and subjective, requiring judgments of quality along a continuum--and principles for devising scoring schemes and examples are described.

HOW CAN THE RESULTS OF SEVERAL ASSESSMENTS BE MEANINGFULLY COMBINED INTO ONE COMPOSITE GRADE?

Grading usually requires constructing one score or judgment from several scores on various assignments and tests. The combination must be valid and appropriately weight the scores of various components according to their places in the instructor's intentions for the course. A set of good assessments can be rendered into an invalid grade if the individual scores are not carefully combined. Four methods of determining final grades serve different grading purposes an instructor might intend, depending on the course: the median method, weighted letter grades, total possible points, and holistic rating.

The topic of grading is found in the higher education literature, largely under discussions or studies of "grade inflation." A review of the recent literature on grade inflation may yield some surprises for readers. Although grade inflation is a concern at the present time, previously during this century writers expressed some concern about grade *de*flation. Several authors have raised related issues that suggest the topic is more multifaceted than the straight-line function the term "inflation" implies: issues about the nature of education, differences in grades among the disciplines, and the noncomparability of grades in different historical periods.

IN WHAT AREAS MIGHT FACULTY IMPROVE THEIR ASSESSMENT SKILLS, AND WHAT RESOURCES ARE AVAILABLE TO HELP?

Assessment of students' work in higher education classrooms is important--and important to do well. One science professor has been heard to comment that professors sometimes measure the specimens in their labs more accurately than they measure the students in their classrooms, yet important human consequences follow from both. Faculty members who wish to improve their skills in assessment can find some good resources already available, some of the best of which are recent books and articles, and easily obtained materials on the Internet. *The Art and Science of Classroom Assessment* summarizes some of what the author thinks are the best "next step" resources for readers.

WHAT CONCLUSIONS CAN BE DRAWN FROM THE REVIEW OF THE LITERATURE?

The literature on principles of classroom assessment has been written mostly for K-12 education. *The Art and Science of Classroom Assessment* uses examples and discusses assessment contexts relevant to college courses and young (and not-so-young) adult students. Empirical studies of classroom assessment in higher education underscore the importance of instructors' fairness, clarity in tests, assignments, and scoring, and clear descriptions of the achievement target or learning goal in higher education classrooms. More studies are needed that investigate the needs, types, results, and effectiveness of assessment in higher education and that tie the findings to theories about adult learners. Some excellent resources presently exist for helping instructors design and conduct valid, reliable, fair, and interesting assessments of students' work--a crucial function in higher education classrooms.

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